

REMARKS

Claims 1, 4, 12, 13, 18, 21, 24, 42, 43, 48 and 51 have been amended to place the above-referenced application in condition for allowance. In view of these amendments and the following reasoning for allowance, the applicants hereby respectfully request further examination and reconsideration of the subject application.

The Objection to the Drawings

A replacement drawing sheet including the required corrections to Fig. 5 have been filed herewith. As such, it is respectfully requested that the objection to the drawings be withdrawn.

The Objection to the Claims

Claims 1-34 and 42-51 were objected to for the inadvertent use of the phrase "coordinated frame" instead of the correct phrase "coordinate frame". The foregoing amendments to the claims have corrected this spelling error. Accordingly, it is respectfully requested that the objections to these claims be withdrawn.

It is noted that in reviewing the claims as part of preparing this response to the Office Action, it was discovered that the "external source" element in Claims 8, 9 and 10 lacked antecedent basis. These claims were amended to correct this problem.

Claims 10, 17-26, 29-33 and 49 were also objected to as being dependent

upon a rejected base claim in the Office Action. The Examiner stated that they would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The applicants at this time, however, respectfully decline to rewrite these claims because it is their position that the independent claims from which these claims depend are patentable.

The Section 102 Rejection of Claims 1-7, 11-13, 27, 28, 34-48 and 50-51

Claims 1-7, 11-13, 27, 28, 34-48 and 50-51 were rejected under 35 USC 102(e) as being anticipated by Cureton et al. (U.S. Patent Application Publication No. 2002/0116200). The Office Action asserts that Cureton discloses each and every element of the applicant's claimed invention. The applicants respectfully disagree with this contention.

The rejected claims, among other things, claim that the building of a geometric model database includes "establishing a set of entities that are of interest in the environment, each entity of which is represented by at least a coordinate frame unique to that entity, and characterizing the location of each entity in the environment in terms of the coordinate frame of at least one other entity, rather than in terms of a coordinate frame common to all entities". Cureton does not teach these features.

Rather Cureton teaches the exact opposite. Cureton teaches a geometric model that expressly characterizes the location of each entity in terms of a global coordinate frame common to all. The reference is replete with evidence of this global coordinate location scheme. For example,

"The function of the global coordinate reference system...is to provide a reference framework within which **the position of all real objects in the feedlot can be specified.**" (Page 9, paragraph 86),

and,

“Using mathematical mapping techniques, such as homogeneous transformations, position coordinates specified within global coordinate reference system...can be easily related to coordinates specified within any local coordinate reference system.” (Page 9, paragraph 90).

Granted, some (although not all) of the entities in the feedlot geometric model also have local coordinate systems that are used to characterize the location of other entities. For example, the feedlot vehicles each have a local coordinate system that is used to define the location of the vehicle and equipment on the vehicle (e.g., feedchutes) to other entities in the feedyard (e.g., an animal pen). However, these local coordinate systems are not used exclusively by the geometric feedlot model to characterized the location of other entities, as claimed by the application. In other words, while one aspect of the Cureton teaching does characterize the location of entities in terms of the coordinate frame of at least one other entity, it does not, as claimed by the applicants, do this “rather than in terms of a coordinate frame common to all entities”. In each case, any characterization of the location of an entity in terms of a local coordinate system of another entity, is also accompanied by a characterization of that same entity in terms of a global (i.e., common) coordinate system. This is evidenced, among other places in the reference, by the following excerpt:

“Globally referenced coordinate information acquired by each feedlot vehicle and transmitted to all other VR subsystems in the feedlot management system is used to automatically update the position and orientation of the vehicle within the VR model thereof.” (Page 9, paragraph 99)

In addition, it is noted that in the claimed geometric model database requires that each entity be represented by a coordinate frame unique to that entity. However, this is not the case in the Cureton feedlot model. For example, there is no local coordinate system assigned to the “tagged” animals which are clearly entities of interest in the feedlot.

A prima facie case of anticipation is established only when the Examiner can show that the cited reference teaches each of the claimed elements of a rejected claim. In this case, the Examiner cannot show that the Cureton reference teaches the claimed feature whereby building the geometric model database includes establishing a set of entities **where each is represented by a coordinate frame unique to that entity**, and characterizing the location of each entity in terms of the coordinate frame of at least one other entity, **rather than in terms of a coordinate frame common to all entities**. Thus, the rejected claims recite features that are not taught in cited art, and as such a prima facie case of anticipation cannot be established. It is, therefore, respectfully requested that the rejection of Claims 1-7, 11-13, 27, 28, 34-48 and 50-51 be reconsidered based on the novel claim language:

" building a geometric model database of the environment based on an initial input of said information, comprising,

establishing a set of entities that are of interest in the environment, each entity of which is represented by at least a coordinate frame unique to that entity, and

characterizing the location of each entity in the environment in terms of the coordinate frame of at least one other entity, rather than in terms of a coordinate frame common to all entities."

The Section 103(a) Rejections of Claims 8, 9 and 14-16

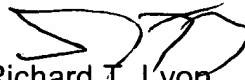
Claim 8 was rejected under 35 USC 103(a) as being unpatentable over Cureton in view of Kacyra et al., U.S. Patent No. 6,473,079. Claim 9 was rejected under 35 USC 103(a) as being unpatentable over Cureton in view of Gelphman, U.S. Patent No. 6,556,783. Claim 14 was rejected under 35 USC 103(a) as being unpatentable over Cureton in view of Cox et al., U.S. Patent No. 5,363,305. And finally, Claims 15 and 16 were rejected under 35 USC 103(a) as being unpatentable over Cureton in view of Cox, and in further view of Davison et al., U.S. Patent No. 6,516,099. It is contended in the Office Action that the combined teachings of Cureton and the other cited references respectively teach all the elements of the rejected claims, and that it would have been obvious to incorporate these teachings into Cureton to produce the applicants' claimed invention. The applicants hereby respectfully disagree with the contentions of obviousness identified above because, like Cureton, none of the other cited references teaches the claimed features whereby the building of a geometric model database includes "establishing a set of entities that are of interest in the environment, each entity of which is represented by at least a coordinate frame unique to that entity, and characterizing the location of each entity in the environment in terms of the coordinate frame of at least one other entity, rather than in terms of a coordinate frame common to all entities".

In order to deem the applicant's claimed invention unpatentable under 35 USC 103, a prima facie showing of obviousness must be made. Without a teaching of the aforementioned features, the cited references cannot support such a showing. It is, therefore, respectfully requested that the rejection of Claims 8, 9 and 14-16 be reconsidered based on the above-quoted non-obvious claim language.

Summary

In summary, it is believed that the Claims 1-51 are in condition for allowance. Accordingly, reconsideration of the rejection of Claims 1-9, 11-16, 27-28, 34-48, 50 and 51, and withdrawal of the objections to Claims 10, 17-26, 29-33 and 49, are respectfully requested. In addition, allowance of all the claims at an early date is courteously solicited.

Respectfully submitted,



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